Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
AFSC/RACE/SAP: Detailed Crab Data From NOAA Fisheries Service 2012 Chukchi Sea Bottom Trawl Surveys

1.2. Summary description of the data:
This dataset contains detailed crab data collected from the 2012 NOAA/NMFS/AFSC/ RACE crab-groundfish bottom trawl survey of the Chukchi Sea. 71 survey stations were successfully completed during the bottom trawl survey. The survey area extended north and east from the Bering Strait to Barrow Canyon, bounded to the west by the U.S.- Russia Maritime Boundary and east to the 10-m bathymetry limit along the Alaska coastline. Demersal populations were sampled by trawling at stations centered within 55.56 x 55.56 km (30 x 30 nautical miles) grid cells covering the survey area. 100% of the catch is sorted for commercially important crab species. Crabs are sorted by species and sex, and a sample is measured to the nearest millimeter to provide a size-frequency distribution (see note under use constraints for analyzing catches where crab were subsampled for measurement). Carapace width is measured for Tanner crabs, and carapace length is measured for king and hair crabs.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2012-08 to 2012-09

1.5. Actual or planned geographic coverage of the data:
W: -168.58, E: -157.17, N: 73.05, S: 66
More elaborate than a keyword.

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Table (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy,

research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)
Instrument: Not Applicable
Platform: Not Applicable
Physical Collection / Fishing Gear: Not Applicable

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
Claire Armistead

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
claire.armistead@noaa.gov

2.5. Phone number:
907 481 1730

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:
Claire Armistead

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?
No

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):
Unknown

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Lineage Statement:

unknown

Process Steps:

- All crab were removed from the catch, sorted by species and sex, and a total catch weight was obtained for each species. Tanner and snow crab hybrids are identified by a combination of characteristics including curve of the epistome margin, eye color, carapace shape, and space between or shape of the rostrum horns. A random subsample of the total catch occurred when an exceptionally large number (> 300) of a species was caught in a tow. The subsample varies in size and composition depending on the particular tow. The subsample may have occurred at the level of the entire catch or at the level of a particular size and sex category once the catch was sorted. The total weights of the sampled crab and non-sampled crab were recorded and an expansion factor was calculated to determine the final number of each species in the catch. Individual crab carapaces were measured (± 1 mm) to provide a size-frequency distribution of each sample. Crab sizes are reported as carapace width (CW) excluding spines for Tanner and snow crab, and carapace length (CL) for all king crab and hair crab. In the absence of specific age data, shell condition classification by length and sex is necessary for apportioning stock abundance and biomass for determination of stock status, analytical stock assessment, and for establishing annual management controls. Shell condition class serves as a semi-quantitative index of molt status and time in shell post-molt. For all EBS crab stocks, and particularly those which exhibit a terminal molt at maturity (i. e., Chionoecetes spp.), shell condition is a requisite for setting overfishing limits and harvest quotas. Carapace shell condition was assessed for each crab sampled and assigned to one of six classes according to specific criteria (0 = premolt or molting, 1 = soft and pliable, 2 = new hardshell both firm and clean, 3 = oldshell slightly worn, 4 = oldshell worn, 5 = very oldshell). Clutch assessment is used to estimate spawning stock biomass and overall reproductive health and to monitor demographic changes in the mating population. All female crab abdomens were evaluated to determine reproductive condition based on the color of the eggs (0 = no eggs, 2 = purple, 3 = brown, 4 = orange, 5 = purple-brown, 6 = pink), the condition of the eggs (0 = no eggs, 1 = uneyed, 2 = eyed, 3 = dead, 4 = empty egg cases), and the size of the egg clutch (0 = immature, 1 = mature female no eggs, 2 = trace to 1/8, 3 = 1/4, 4 = 1/2, 5 = 3/4, 6 = full). For mature females, egg clutch and egg condition codes were used to identify the stage in the molt-mate cycle, where the presence of eyed embryos, empty egg cases, or absence of eggs (barren, hereafter) in mature-sized females were indications of an incomplete cycle while mature females brooding uneyed embryos indicated completion of the cycle.

- Catch-per-unit-effort CPUE), abundance, and biomass estimates are calculated by species and by stock. Area swept is calculated as the product of the distance trawled while the net had bottom contact by the mean net width over the duration of the tow. CPUE is expressed in terms of number (or weight) of crab per square nautical mile. Biomass estimates are calculated for the number of individual male and female crab species at each 1 mm size category using the weight-size relationships developed by the AFSC's Kodiak Laboratory. The size-weight relationships are described by the expression: W = a Lb, where W is the total weight in grams, L is either CL or CW in millimeters, a is the intercept in log scale and b is the slope. Parameters a and b for the size-weight relationships are estimated from a linear regression fitted to log-transformed size-weight data. The weights calculated at each 1 mm size category are summed within the legal male, sublegal male, mature and immature size categories for each species and sex caught at a station. The crab biomass within a district or section stratum was estimated by averaging crab densities from all stations within the defined district or section stratum and multiplied by the total area of the district or section stratum specific to that stock. Total biomass was calculated using a stratified design based on management units (standard density, high density, Alaska Department of Fish&Game-defined districts, or section stratum). Population biomass estimates were calculated in each stratum and then summed among strata. Variance of the total biomass estimate for each size class was calculated by summing the variance of each stratum. The 95% confidence intervals were calculated using the standard error of the total population multiplied by 1.96.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):
All data is submitted through a thorough QA/QC process. Data is checked for outliers, impossible values, and invalid values.

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 7.2. Name of organization of facility providing data access

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/23470

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NOAA Data Documentation
Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-
Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?
Yes

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

7.2.1. If data hosting service is needed, please indicate:
yes

7.2.2. URL of data access service, if known:
https://noaa-fisheries-afsc.data.socrata.com/Species/AFSC-RACE-SAP-Detailed-Crab-Data-From-NOAA

7.3. Data access methods or services offered:
unknown

7.4. Approximate delay between data collection and dissemination:
unknown

7.4.1. If delay is longer than latency of automated processing, indicate under what

authority data access is delayed:
　　　No delay

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)
　　　NCEI_MD

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
　　　Alaska Fisheries Science Center - Seattle, WA

　　　Oracle database

8.3. Approximate delay between data collection and submission to an archive facility:
　　　Unknown

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection
　　　IT Security and Contingency Plan for the system establishes procedures and applies to the functions, operations, and resources necessary to recover and restore data as hosted in the Western Regional Support Center in Seattle, Washington, following a disruption.

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.